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Appl. No.: 10/763,578
Amdt. Dated: 10/27/2006
Off. Act. Dated: 09/29/2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented): A multilayered material for fabrication of a nanodevice, comprising:
 - (a) a device layer; and
 - (b) a substrate layer;
 - (c) said substrate layer having a top surface adjacent said device layer, and a bottom surface;
 - (d) wherein said substrate layer comprises a diffusion layer having a collection region adapted for capture of hydrogen;
 - (e) wherein the collection region is positioned away from the bottom surface of the substrate and toward the top surface; and
 - (f) wherein the substrate layer is adapted for diffusion of hydrogen from the bottom surface to the collection region.
2. (previously presented): A material as recited in claim 1:
wherein said substrate layer further comprises an insulator layer between said device layer and said diffusion layer; and
wherein the collection region is adjacent the insulator layer.
3. (original): A material as recited in claim 1, wherein said collection region is a heavily doped region for capture of hydrogen.

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4. (original): A material as recited in claim 1, wherein said collection region is a getter/acceptor region for capture of hydrogen.

5. (original): A material as recited in claim 1, wherein said device layer comprises a material having at least a portion that has been optimized for fabricating said nanodevice.

6. (original): A material as recited in claim 2, wherein said insulator layer comprises a material that provides a high degree of electrical and thermal insulation between the diffusion layer and the device layer.

7. (original): A material as recited in claim 1, wherein said diffusion layer comprises a material optimized for a high rate of diffusion of hydrogen therethrough.

8. (previously presented): A multilayered material for fabrication of a nanodevice, comprising:

- (a) a device layer; and
- (b) a substrate layer;
- (c) said substrate layer having a top surface adjacent said device layer, and a bottom surface;
- (d) wherein said substrate layer comprises a diffusion layer having a collection region adapted for capture of hydrogen;
- (e) wherein said substrate layer further comprises an insulator layer between said device layer and said diffusion layer;
- (f) wherein the collection region is positioned away from the bottom surface of the substrate and toward the top surface;
- (g) wherein the collection region is adjacent the insulator layer; and

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(h) wherein the substrate layer is adapted for diffusion of hydrogen from the bottom surface to the collection region.

9. (original): A material as recited in claim 8, wherein said collection region is a heavily doped region for capture of hydrogen.

10. (original): A material as recited in claim 8, wherein said collection region is a getter/acceptor region for capture of hydrogen.

11. (original): A material as recited in claim 8, wherein said device layer comprises a material having at least a portion that has been optimized for fabricating said nanodevice.

12. (original): A material as recited in claim 8, wherein said insulator layer comprises a material that provides a high degree of electrical and thermal insulation between the diffusion layer and the device layer.

13. (original): A material as recited in claim 8, wherein said diffusion layer comprises a material optimized for a high rate of diffusion of hydrogen therethrough.

14. (previously presented): A multilayered material for use in fabrication of a nanodevice, comprising:

- (a) a device layer;
- (b) an insulator layer adjacent said device layer; and
- (c) a diffusion layer having a collection region adapted for capture of hydrogen adjacent said insulator layer;
- (d) wherein the diffusion layer has a bottom surface;

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(e) wherein the collection region is positioned away from the bottom surface and toward the insulator layer; and

(h) wherein the diffusion layer is adapted for diffusion of hydrogen from the bottom surface to the collection region.

15. (original): A material as recited in claim 14, wherein said collection region is a heavily doped region for capture of hydrogen.

16. (original): A material as recited in claim 14, wherein said collection region is a getter/acceptor region for capture of hydrogen.

17. (original): A material as recited in claim 14, wherein said device layer comprises a material having at least a portion that has been optimized for fabricating said nanodevice.

18. (original): A material as recited in claim 14, wherein said insulator layer comprises a material that provides a high degree of electrical and thermal insulation between the diffusion layer and the device layer.

19. (original): A material as recited in claim 14, wherein said diffusion layer comprises a material optimized for a high rate of diffusion of hydrogen therethrough.

20. (previously presented): A multilayered material for use in fabrication of a nanodevice, comprising:

- (a) a layer of material for device fabrication;
- (b) a layer of insulator material; and
- (c) a layer of material through which hydrogen can diffuse at a high rate and having a collection region adapted for capture of hydrogen;

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(d) wherein said layer of insulator material is disposed between said layer of material for device fabrication and said collection region;

(e) wherein the layer of material through which hydrogen can diffuse has a bottom surface;

(f) wherein the collection region is positioned away from the bottom surface and toward the layer of insulator material; and

(g) wherein the layer of material through which hydrogen can diffuse is adapted for diffusion of hydrogen from the bottom surface to the collection region.

21. (original): A material as recited in claim 20, wherein said collection region is a heavily doped region for capture of hydrogen.

22. (previously presented): A material as recited in claim 20, wherein said layer of material through which hydrogen can diffuse has a getter/acceptor region for capture of hydrogen.

23. (previously presented): A material as recited in claim 20, wherein said layer of material for device fabrication comprises a material having at least a portion that has been optimized for fabricating said nanodevice.

24. (previously presented): A material as recited in claim 20, wherein said layer of insulating material provides a high degree of electrical and thermal insulation between the layer of material through which hydrogen can diffuse and the layer of material for device fabrication.

25. (previously presented): A material as recited in claim 20, wherein said layer of material through which hydrogen can diffuse comprises a material optimized for a high rate of diffusion of hydrogen therethrough.

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26. (previously presented): A multilayered material for use in fabrication of a nanodevice, comprising:

- (a) a layer of material for device fabrication, said material having at least a portion that has been optimized for fabricating said nanodevice;
- (b) a layer of material through which hydrogen can diffuse at a high rate and having a collection region adapted for capture of hydrogen, said collection region comprising a heavily doped region or a getter/acceptor region;
- (c) wherein said layer of material through which hydrogen can diffuse comprises a material optimized for a high rate of diffusion of hydrogen therethrough; and
- (d) a layer of insulator material, wherein said layer of insulator material provides a high degree of electrical and thermal insulation between the layer of material through which hydrogen can diffuse and the layer of material for device fabrication;
- (e) wherein the layer of insulator material is disposed between the device layer of material for device fabrication and the layer of material through which hydrogen can diffuse;
- (f) wherein the layer of material through which hydrogen can diffuse has a bottom surface;
- (g) wherein the collection region is positioned away from the bottom surface and toward the layer of insulator material; and
- (h) wherein the layer of material through which hydrogen can diffuse is adapted for diffusion of hydrogen from the bottom surface to the collection region.

27. (original): A material as recited in claim 1, 8, 14, 20 or 26, further comprising at least one heat dissipation layer.

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28. (original): A material as recited in claim 1, 8, 14, 20 or 26, further comprising at least one RF shield layer.

Claims 29-80 (cancelled)